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### **REMARKS**

This response is intended as a full and complete response to the non-final Office Action mailed January 9, 2006. In the Office Action, the Examiner notes that claims 32-44 are pending and rejected. By this response, all claims continue unamended.

In view of the following discussion, Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. Thus, Applicants believe that all of these claims are now in allowable form.

It is to be understood that Applicants do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive response.

### **REJECTION OF CLAIMS UNDER 35 U.S.C. §103(a)**

#### **Claims 32-44**

The Examiner has rejected claims 32-44 under 35 U.S.C. §103(a) as being unpatentable over Mao et al. (U.S. 6,886,178, hereinafter "Mao") in view of Wu et al. (U.S. 6,594,271, hereinafter "Wu"). Applicants respectfully traverse the rejection.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (C.C.P.A. 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494 496 (C.C.P.A. 1970), M.P.E.P. 2143.03. Moreover, the mere fact that a prior art structure could be modified to produce the claimed invention would not have made the modification obvious unless the prior art suggested the desirability of the modification. *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992); *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. *Jones v. Hardy*, 110 USPQ 1021, 1024 (Fed. Cir. 1984) (emphasis added). Thus, it is impermissible to

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focus either on the "gist" or "core" of the invention, Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 230 USPQ 416, 420 (Fed. Cir. 1986) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 USPQ 2d 1959, 1961 (Fed. Cir. 1988).

Mao and Wu alone or in combination fail to teach or suggest Applicants' invention as a whole.

Applicants' independent claims 32 and 40 recite, respectively:

32. "In an information distribution system comprising server equipment for providing both content and non-content data to subscriber equipment, said server equipment comprising:  
a multiplex switch for multiplexing a plurality of formatted content streams from server modules to produce an output stream that is adapted for transport via a communication channel, wherein said multiplexing of said formatted content streams is statistically performed; wherein said multiplex switch is further for formatting non-content data and for selectively multiplexing formatted non-content data into said output stream, and wherein said multiplexing of formatted non-content data is on a future bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams." (Emphasis added)

40. "A method of providing content and non-content data to subscriber comprising the steps of:  
statistically multiplexing a plurality of formatted content streams to produce an output stream that is adapted for transport via a communication channel;  
formatting non-content data to fit the output stream;  
predicting future bandwidth availability based on the statistical multiplexing of the formatted content streams; and  
selectively multiplexing formatted non-content data into said output stream on a future bandwidth availability basis." (Emphasis added).

The present invention discloses that the switching module 234 may be able to predict future bandwidth availability and, therefore, give priority to IP packets over video and audio MPEG packets. (See Specification: page 13, lines 8-21.) Specifically, the future bandwidth is predicted based on the multiplexing of the formatted content packets. The prediction allows the formatted non-content data to be multiplexed into an output stream based on future bandwidth conditions, i.e., irrespective of the current bandwidth condition. The present claims explicitly include the features of anticipating

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the bandwidth at a future time and using that information in selectively multiplexing. As stated in the claims, "predicting future bandwidth availability based on the statistical multiplexing of the formatted content streams; and selectively multiplexing formatted non-content data into said output stream on a future bandwidth availability basis."

Mao teaches that the Internet HTML Web page data is formatted to fit within a standard MPEG-2 packet structure, and multiplexed along with other MPEG-2 data digital video signals for transport within a multiple channel digital video system. The Examiner correctly concludes that Mao does not disclose statistically multiplexing of formatted content streams and multiplexing of formatted non-content data on a future bandwidth availability basis that is predicted based on the multiplexing of the formatted content stream.

Nowhere in Mao is there any teaching or suggestion of "predicting future bandwidth availability based on the statistical multiplexing of the formatted content streams; and selectively multiplexing formatted non-content data into said output stream on a future bandwidth availability basis."

Wu fails to bridge the substantial gap between Mao and Applicants' invention. Wu does not suggest or teach "predicting future bandwidth availability based on the statistical multiplexing of the formatted content streams; and selectively multiplexing formatted non-content data into said output stream on a future bandwidth availability basis."

Wu teaches using bandwidth information to allocate bandwidth to television service processors (TSPs) using a global Quantization Level (QL) instead of individual services in a stat mux group dictating their local QL themselves. Wu also teaches a way to allocate bandwidth to increase efficiency if certain amount bandwidth is available but not being used. Specifically, Wu teaches an opportunistic data processor (ODP) implementing a special rate control scheme by encoding data and sending it to the Packet Multiplexer (PM) only when a global QL indicates that spare bandwidth is available, i.e., TSP drops below a threshold. A Quantization Level Processor (QLP) receives the QL from each TSP and a global QL is calculated based on an average of the QLs received from the TSP. The QLP also allocates the available bandwidth to each individual TSP. In one example, the ODP "tricks" the QLP into assigning it

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bandwidth only when the ODP determines that spare bandwidth that is not being used by the TSPs is available (see, column 5, lines 44 to column 6, line 26).

Wu is silent on predicting future bandwidth availability. The setting of the bandwidth in Wu is based on the amount of available bandwidth at the time of the transmission. Wu does not calculate, determine, anticipate or predict what the bandwidth condition will be like in the future and multiplex data with respect to that prediction.

Thus, Mao and Wu, singly or in combination, fail to teach or suggest the invention as a whole. As such, Applicants submit that independent claims 32 and 40 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

Furthermore, claims 33-39 and 41-44 respectively depend from Independent claims 32 and 40 and recite additional limitations thereof. As such, and at least for the same reasons as discussed above, Applicants submit that these dependent claims are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, Applicants respectfully request that the Examiner's rejections be withdrawn.

### **THE SECONDARY REFERENCES**

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to Applicants' disclosure than the primary references cited in the Office Action. Therefore, Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this Office Action.

### **CONCLUSION**

Thus, Applicants submit that none of the claims presently in the application, are obvious under the provisions of 35 U.S.C. §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

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If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. or Jasper Kwok at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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